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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/024,560	12/21/2001	Kenji Oki	0505-0926P	3721
2292	7590	10/15/2003	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			CIRIC, LJILJANA V	
			ART UNIT	PAPER NUMBER
			3753	

DATE MAILED: 10/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
10/024,560

Applicant(s)
Kenji et al.

Examiner
Ljiljana V. Ciric

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Dec 21, 2001
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on Dec 21, 2001 is/are a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 4 6) ☐ Other: _____

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DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The abstract of the disclosure is objected to because it contains various grammatical and idiomatic informalities (i.e., "for conducting cooling wind of the radiator"; "to thereby prevent excitation to the radiator") and because it refers to the purported merits of the invention in the last sentence. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 U.S.C. § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1 through 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and contain grammatical and idiomatic errors. For example, generally there appear to be discrepancies between the apparent scopes of the preambles and the respective bodies of the claims, and,

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additionally, many structural elements recited in the claims are first recited as part of wherein clauses in the claims, thus further rendering indefinite the metes and bounds of protection sought by the claims.

Also, the term “means” in the limitation “by means of a fastening member” as recited in each of claims 2 and 9 and the limitation “by means of rivets” as recited in each of claims 3 and 10 do not automatically invoke 35 U.S.C. 112, sixth paragraph, since a claim limitation is to be interpreted invoking 35 U.S.C. 112, sixth paragraph only if the claim limitation uses the phrase “means for” or “step for” modified with functional language only, and not by structure, material or acts for achieving the specified function. The limitation “by means of rivets” does not use the phrase “means for” and therefore is being interpreted broadly and not as invoking 35 U.S.C. 112, sixth paragraph. *Cf. Seal-Flex, Inc. v. Athletic Track and Court Construction*, 172 F.3d 836, 849-50, 50 USPQ2d 1225, 1233-34 (Fed. Cir. 1999). Also *Cf. Morris*, 127 F.3d at 1055, 44 USPQ2d at 1028. Also *Cf. Rodime PLC v. Seagate Technology, Inc.*, 174 F.3d at 524, 531, 41 USPQ2d 1429, 1435-36 (Fed. Cir. 1999). If there is no intent to invoke 35 U.S.C. 112, sixth paragraph, recommend deleting the words “means of” from the aforementioned limitations, whereas if there is, recommend using the proper phrase “means for” to clarify such intent.

Claim Rejections - 35 U.S.C. § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

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such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. As best can be understood in view of the indefiniteness of the claims, claims 1 through 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al. in view of Cadars.

Watanabe et al. discloses a vehicle radiator device or assembly essentially as claimed, including: a radiator 53 including a core 69 with first tank 73 and second tank 77 coupled thereto and also coupled to the water jacket of the engine E via each of inlet conduit or hose 75 and outlet hose or conduit 72, the engine E being supported by a vehicle body frame 3; and, a grille 55 made of a synthetic resin or an "elastic" material, the grille 55 being readable on the shroud as recited in the claims, the radiator and the shroud or grille 55 being connected to each other via pins or rivets 87.

While Watanabe et al. does not specify that the radiator tanks 73 and 77 are made of a synthetic resin, it is well-known in the art of designing and manufacturing heat exchangers such as radiators for vehicular engine-cooling circuits to make the headers or tanks from synthetic resins or plastics as taught by Cadars in order to reduce corrosion within the engine-cooling circuits and thus improve system performance.

Thus, it would have been obvious to one skilled in the art at the time of invention to modify the engine-cooling system of Watanabe et al. by making the radiator tanks 73 and 77 thereof from a plastic or synthetic resinous material as taught by Cadars in order to reduce the

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likelihood of corrosion within the radiator of the engine-cooling circuit and thus also reduce maintenance and repair costs associated with the operation thereof.

7. As best can be understood in view of the indefiniteness of the claims, claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al. in view of Cadars and further in view of Sommars.

As described in greater detail above, Watanabe et al. in view of Cadars discloses and/or teaches all of the features of the inventive radiator device essentially as claimed, including a radiator 53 having a core 69 with first tank 73 and second tank 77 coupled thereto.

While Watanabe et al. in view of Cadars does not disclose many additional structural details of the radiator 69, such as the first and second coupled protruding pieces extending respectively from the upper side and from the lower side of the radiator core 69, the first and second coupled protruding pieces being coupled by sealing members to the upper tank 73 and the lower tank 77, such structural details are conventional in the art of radiator design and are taught by Sommars, for example. Sommars teaches providing first protruding pieces or locators 32 and 34 on the upper and lower sides of a radiator core 16 in a heat exchanger or radiator 10 to resiliently couple the same by respective sealing members 54 and 56 to the upper tank 14 and the lower tank 14a of the radiator or heat exchanger 10 and thus limit damage to the radiator core 16 due to vibration associated with the operation of the vehicle in which the radiator 10 is mounted. See column 1, lines 54-65, of Sommars.

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Thus, it would have been obvious to one skilled in the art at the time of invention to optimize the inventive vehicular radiator device of Watanabe et al. in view of Cadars by including locators or protruding pieces extending from the upper and lower sides of the radiator core cooperating with respective sealing members to resiliently couple the radiator core to the upper and lower radiator tanks as taught by Sommars in order to minimize leakage and/or potential damage to the radiator core due to jarring and vibration generated during operation of the vehicle in which the radiator device is mounted.

8. As best can be understood in view of the indefiniteness of the claims, claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al. in view of Cadars and further in view of Perpall.

As described in greater detail above, Watanabe et al. in view of Cadars discloses and/or teaches all of the features of the inventive radiator device essentially as claimed, including a radiator 53 and inlet/outlet hoses or conduits 75 and 72 connecting the radiator 53 with the cooling jacket of the engine E.

While Watanabe et al. in view of Cadars does not necessarily disclose that elastic sealing members are provided at both end portions of the conduits connecting the water jacket to the radiator tanks, it does disclose the conduits themselves as being elastic hoses. Perpall teaches that it is desirable to provide resilient or elastic sealing members or elements at the inlets and outlets of hard ducts or conduits joined to a heat exchanger in a harsh environment such as a vehicular

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engine-cooling circuit in order to prevent damage to the heat exchanger due to jarring, vibration, or thermal stresses of the system in which the heat exchanger is mounted.

Thus, it would have been obvious to one skilled in the art at the time of invention to modify the radiator device of Watanabe et al. in view of Cadars by replacing the inlet and outlet hoses with the art-known equivalent of resilient or elastic sealing members or elements attached to the ends of hard pipes in order to minimize damage to the radiator or the engine-cooling system associated therewith due to operational system stresses as taught by Perpall, for example.

9. As best can be understood in view of the indefiniteness of the claims, claims 8 through 11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsurumi et al. in view of Cadars.

Tsurumi et al. discloses a vehicle radiator device or assembly essentially as claimed, including: a radiator R including a core having a first tank and second tank coupled thereto as shown in Figures 12 and 13, for example; a shroud 32 made of a resinous or elastic material and fixed to the engine via fastening member 38 as shown in Figure 13; and, a pivot shaft associated with pivot plate 9. Official Notice is taken hereby that providing a water cap at an uppermost position of the upper tank of a vehicular radiator is conventional, as is a conduit for communicating fluid between a vehicular radiator and the water jacket of the vehicular engine.

While Tsurumi et al. does not specify that the upper and lower radiator tanks are made of a synthetic resin, it is well-known in the art of designing and manufacturing heat exchangers such as radiators for vehicular engine-cooling circuits to make the headers or tanks from synthetic

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resins or plastics as taught by Cadars in order to reduce corrosion within the engine-cooling circuits and thus improve system performance.

Thus, it would have been obvious to one skilled in the art at the time of invention to modify the engine-cooling system of Tsurumi et al. by making the radiator tanks thereof from a plastic or synthetic resinous material as taught by Cadars in order to reduce the likelihood of corrosion within the radiator of the engine-cooling circuit and thus also reduce maintenance and repair costs associated with the operation thereof.

10. As best can be understood in view of the indefiniteness of the claims, claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tsurumi et al. in view of Cadars and further in view of Sommars.

As described in greater detail above, Tsurumi et al. in view of Cadars discloses and/or teaches all of the features of the inventive radiator device essentially as claimed, including a radiator R having a core with a first tank and a second tank coupled thereto.

While Tsurumi et al. in view of Cadars does not disclose many additional structural details of the radiator R, such as the first and second coupled protruding pieces extending respectively from the upper side and from the lower side of the radiator core, the first and second coupled protruding pieces being coupled by sealing members to the upper tank and to the lower tank, such structural details are conventional in the art of radiator design and are taught by Sommars, for example. Sommars teaches providing first protruding pieces or locators 32 and 34 on the upper and lower sides of a radiator core 16 in a heat exchanger or radiator 10 to resiliently couple the

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same by respective sealing members 54 and 56 to the upper tank 14 and the lower tank 14a of the radiator or heat exchanger 10 and thus limit damage to the radiator core 16 due to vibration associated with the operation of the vehicle in which the radiator 10 is mounted. See column 1, lines 54-65, of Sommars.

Thus, it would have been obvious to one skilled in the art at the time of invention to optimize the inventive vehicular radiator device of Tsurumi et al. in view of Cadars by including locators or protruding pieces extending from the upper and lower sides of the radiator core cooperating with respective sealing members to resiliently couple the radiator core to the upper and lower radiator tanks as taught by Sommars in order to minimize leakage and/or potential damage to the radiator core due to jarring and vibration generated during operation of the vehicle in which the radiator device is mounted.

11. As best can be understood in view of the indefiniteness of the claims, claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tsurumi et al. in view of Cadars and further in view of Perpall.

As described in greater detail above, except for the various conventional elements as already noted above as well, Tsurumi et al. in view of Cadars discloses and/or teaches all of the features of the inventive radiator device essentially as claimed, including a radiator R, engine 12, and a pivot plate 9 associated with the engine assembly. Tsurumi et al. in view of Cadars does not necessarily disclose that elastic sealing members are provided at both end portions of the

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conventional conduits connecting the water jacket of the engine 12 to the tanks of the radiator R as recited in claim 14 of the instant application.

Nevertheless, it is known in the art of vehicular engine-cooling circuits and taught by Perpall, however, teaches that it is desirable to provide resilient or elastic sealing members or elements at the inlets and outlets of hard ducts or conduits joined to a heat exchanger in a harsh environment (such as in a vehicular engine-cooling circuit) in order to prevent damage to the heat exchanger due to jarring, vibration, or thermal stresses of the system in which the heat exchanger is mounted.

Thus, it would have been obvious to one skilled in the art at the time of invention to modify the radiator device of Tsurumi et al. in view of Cadars by adding resilient or elastic sealing members or elements attached to the ends of conduits or hard pipes disposed between radiator R and the engine 12 in order to minimize damage to the radiator R or the engine-cooling system associated therewith due to operational system stresses as taught by Perpall, for example

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Fritzenwenger, Inagaki et al., Hasumi et al., Hasumi, and Tateshima et al. each discloses an engine-cooling system including a radiator and a shroud for use in a motorcycle. Shibata discloses a resinous or elastic fan shroud for vehicular applications. Moser discloses a radiator-type heat exchanger including plastic headers.

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13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ljiljana (Lil) V. Ciric, whose telephone number is (703) 308-3925. While she works a flexible schedule that varies from day to day and from week to week, Examiner Ciric may generally be reached at the Office during the work week between the hours of 10 a.m. and 6 p.m. ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennett, can be reached on (703) 308-0101. The fax phone number is (703) 305-3463.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0861.

lvc

September 30, 2003


LJILJANA V. CIRIC
PRIMARY EXAMINER
ART UNIT 3743